REMARKS

In the Office Action dated October 17, 2006, claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Ise et al in view of Walther et al. Claims 3-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ise et al and Walther et al, further in view of Rupprecht et al.

By the present Amendment, the subject matter of claim 3 has been embodied in independent claim 2, and claim 3 accordingly has been cancelled. It is therefore only necessary to address the rejection of original claim 3, based on the teachings of Ise et al, Walther et al, and Rupprecht et al. This rejection of original claim 3, the subject matter of which is now embodied in independent claim 2, is respectfully traversed for the following reasons.

The Examiner relied on the Ise et al reference as disclosing two separate methods for measuring the levels of surfactant SP-B or SP-C. The Examiner acknowledges that the Ise et al reference does not teach classification of the levels as being sufficient or deficient. The Examiner relied on the Walther et al reference as teaching making a diagnosis, for patients with RDS, as to whether surfactant levels are abnormal, and the Examiner stated it would have been obvious to modify the methods disclosed in the Ise et al reference to characterize the surfactant levels, in order to diagnosis RDS in a patient.

The Examiner further acknowledged that the combination of Ise et al and Walther et al does not teach automatically determining a surfactant dose, that is made dependent on the assessment of the deficiency of any of the identified proteins. The Examiner stated that the Rupprecht et al. reference discloses a dosing calculating system for surfactant therapy wherein the physician calculates a dose

and delivers a surfactant to the lungs of a patient through a tube from a reservoir. The Examiner stated it would have been obvious to modify the Ise et al/Walther et al combination to use such a method of therapy, because the Examiner stated this is merely a substitution of known therapy method for another. The Examiner also took official notice that it would have been obvious to automate the dose calculating, in order to eliminate human errors from measurement.

First, Applicants respectfully submit that the Examiner has misused the permission regarding the use of "official notice" that is given to Examiners in MPEP §2144.03. As explicitly stated in that section, official notice can be used *only* with regard to certain well-known and uncontestable *facts*. The purpose of taking "official notice" is to relieve the Examiner of the burden of having to find documentary substantiation for such facts. The Examiner does not have any authority to take "official notice" that something would have been obvious, as the Examiner did in the aforementioned rejection of claims 3-7. If Examiners were permitted to take "official notice" that something would have been obvious, this would completely relieve the Examiner of the obligation to provide evidentiary and analytical support for an obviousness rejection under 35 U.S.C. §103(a).

Moreover, Applicants submits that even if the Examiner were permitted to use "official notice" as a basis for an obviousness conclusion, the Examiner has not provided the appropriate support for taking "official notice" of the (alleged) obviousness of automating dose calculating in order to eliminate human errors. Applicants of course do not deny that automatic dose calculating is known in the art under many circumstances, but this does not compel the conclusion that it is always obvious to automate dose calculating. The present situation is but one of many

examples where, until the invention by the present Applicants, automated dose calculating with regard to the administration of certain proteins has not existed, or at least has not existed in the form invented by the present Applicants. Some types of medicament administration have heretofore defied automation, and simply because other types of dose calculating have been able to be automated is irrelevant as to whether automated dose calculating for the administration of proteins would have been obvious, or even possible, in view of the current state of the art.

Secondly, Applicants do not agree that the Rupprecht et al. reference teaches or suggests a dose calculating system for surfactant therapy. In the method disclosed in the Rupprecht et al. reference, a hyperpolarized gas is administered to the lungs of a subject, and a magnetic resonance scan of at least one lung is then obtained, in order to determine the extent and distribution of infusion of the hyperpolarized gas in the lung. In the images that are obtained in this manner, alveolae that are opened, and thus contain the hyperpolarized gas, can be differentiated from collapsed alveolae. This information is then used to determine whether surfactant therapy is required and, if surfactant therapy is required, to determine the amount of surfactant to administer.

As noted above, the Ise et al and Walther et al references disclose that it is meaningful to identify surfactant levels, or surfactant protein levels, in order to diagnose RDS in a patient. To this extent, the Rupprecht et al. reference, up to step 8 in the figure thereof, reaches no different result or conclusion, and therefore adds nothing to the combined disclosures of Ise et al and Walther et al. It is true that in the Rupprecht et al. reference, a "yes" answer to the inquiry "surfactant therapy required?" in step 8 results in the method proceeding to step 10, wherein a

surfactant does is calculated. As stated at column 3, lines 3-7 of the Rupprecht et al. reference, however, the only information provided with regard to step 10 is that the same information is used to determine whether surfactant therapy is required, or information derived therefrom is used to calculate an appropriate surfactant dose. The "same information" therefore means the number of alveolae that are determined to be collapsed by the aforementioned MR scan with hyperpolarized gas. There is no disclosure in the Rupprecht et al. reference as to how this calculation is made.

More importantly, since the only teaching in the Rupprecht et al. reference is to use information obtained from a magnetic resonance image acquired by administering hyperpolarized gas to a patient, or information derived from such an image, for the purpose of calculating the surfactant dose, and since neither Ise et al or Walther et al makes any use whatsoever of magnetic resonance images of any type, this information in the Rupprecht et al. reference is completely unuseable in the context of the methods disclosed in Ise et al and Walther et al.

The Ise et al and Walther et al references, like the subject matter of claim 1, involve obtaining a sample from the airways of the subject, but no such sample is obtained or used in the Rupprecht et al. method, but instead, as discussed above, a magnetic resonance image is obtained. Because of this difference, the Rupprecht et al. reference does not disclose or suggest determining whether any protein, in the specified group of proteins, is deficient in the *sample.* The Rupprecht et al. reference proceeds on a completely different conceptual basis, which is to determined the amount or degree of collapsed alvoelae in the lung, and then a surfactant dose is calculated, but there is no determination of any actual surfactant deficiency. It is *assumed* in the Rupprecht et al. method that if collapsed alvoelae

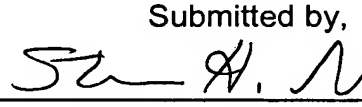
are detected to any significant degree, the "automatic" response is to administer a surfactant. This assumption, however, is not based on any actual determination of a surfactant deficiency.

Applicants therefore respectfully submit that the subject matter of original claim 3, now embodied in independent claim 2, would not have been obvious to a person of ordinary skill in the field of protein administration therapy under the provisions of 35 U.S.C. §103(a) based on the teachings of Ise et al, Walther et al and Rupprecht et al.

Claims 4-7 add further steps to the non-obvious method of claim 3, and therefore none of those claims would have been obvious to a person of ordinary skill for the same reasons discussed above in connection with claim 3.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,



(Reg. 28,982)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicants.

CH1\ 4811067.1